

*D1* functional characteristic of human integral membrane protein].

*D2* 12. (Once Amended) A [pharmaceutical] composition comprising [a substantially purified human integral membrane protein having the amino acid sequence of SEQ ID NO:1 in conjunction with] the protein of claim 1 and a suitable pharmaceutical carrier.

*sub F1*  
*D3* 21. (Once Amended) A purified polypeptide comprising [an amino acid sequence selected from the group consisting of:

- a) an amino acid sequence of SEQ ID NO:1,
- b) a naturally-occurring amino acid sequence having at least 90% sequence identity to the sequence of SEQ ID NO:1,
- c) a biologically-active fragment of the amino acid sequence of SEQ ID NO:1, and
- d) an immunogenic fragment of the amino acid sequence of SEQ ID NO:1.

Please add the following new claim:

*D4* 41. (New) A method for identifying mature osteoblasts in a mixed tissue sample comprising:

- a) raising antibodies that bind specifically to the protein of claim 1,
- b) contacting said antibodies with a mixed tissue sample containing mature osteoblasts wherein said mature osteoblasts express the protein of claim 1, and
- c) detecting the binding of said antibodies to said mature osteoblasts, thereby identifying mature osteoblasts in a mixed tissue sample.

### REMARKS

#### Claim Rejections Under 35 U.S.C. § 101

Claims 1, 2, 12, 21, 22 and 36-39 have been rejected under 35 U.S.C. § 101, because the claimed invention is allegedly not supported by a specific and substantial credible utility. The Examiner alleges that the specification does not teach a credible biological role for the disclosed protein.